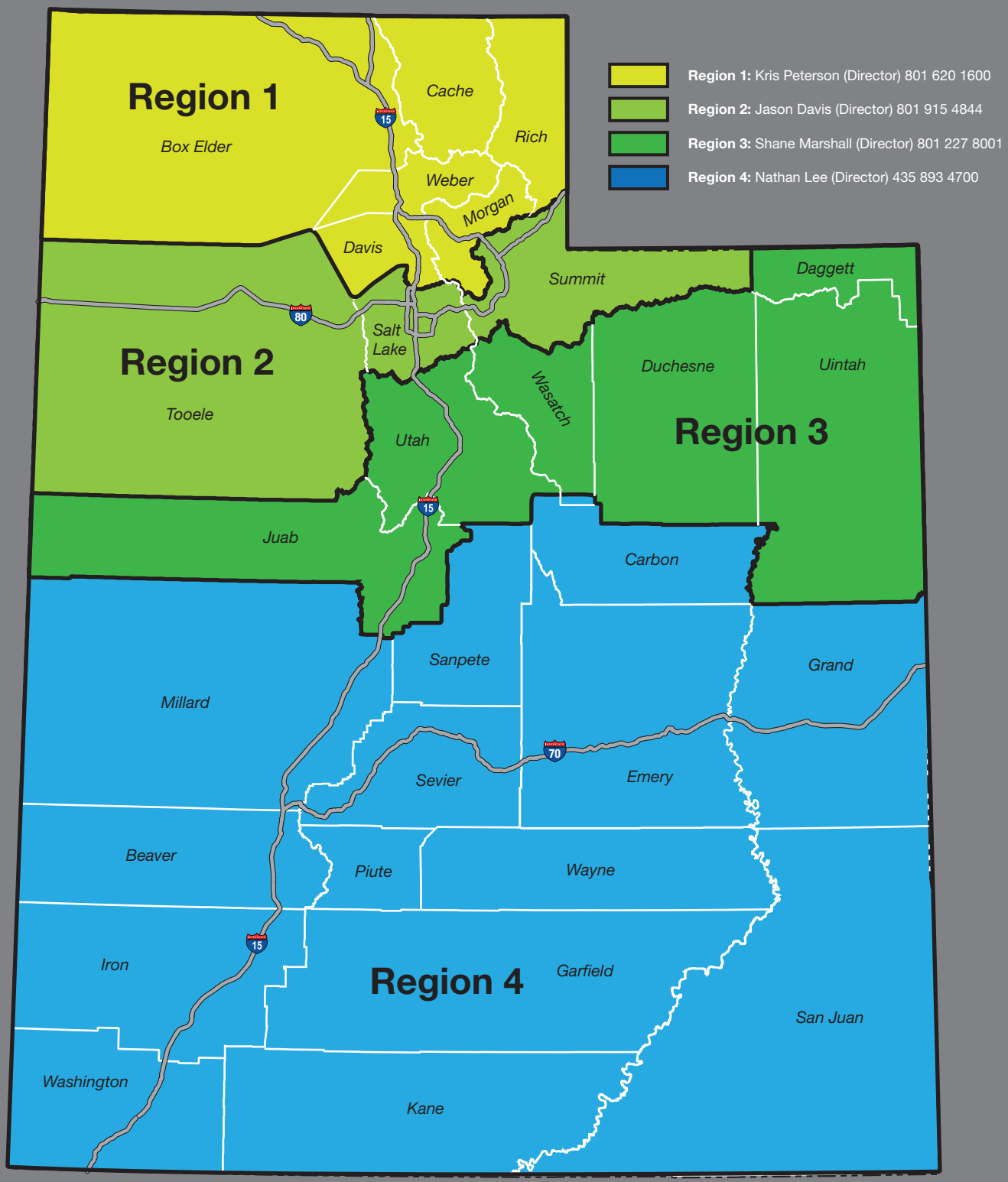
2011 STRATEGIC DIRECTION
& PERFORMANCE MEASURES

UDOT REGIONS



UTAH DEPARTMENT OF TRANSPORTATION

THE 2011 STRATEGIC DIRECTION: MEASURING PROGRESS AND PLANNING FUTURE IMPROVEMENTS

Every day we interact in some way with the Utah transportation system. Whether it's through the goods we purchase or services we use, the places we work, the schools our children attend or the recreational areas we visit, our transportation system is the key to reaching our destination safely and efficiently.

As the custodian of Utah's roads, bridges and highways, UDOT's performance is critical to the health of our state's economy and to our quality of life. In order to chart consistent, measurable progress, we focus on the core functions of our agency as expressed in the Final Four Strategic Goals:

- Take Care of What We Have
- Make the System Work Better
- Improve Safety
- Increase Capacity

Using the Final Four as an outline, each section of this document explains goals, achievements and performance trends. While not exhaustive, this information gives an accurate picture of where we stand and where we need to go. In addition to this publication, supportive information can be found on our website: udot.utah.gov. Please review this information and contact me directly if you have any questions.

We take our responsibility seriously and will continue to work hard to maintain and improve a safe and efficient transportation system for Utah's citizens.

Thank you,
John Njord
Executive Director
801-965-4113

THE UTAH TRANSPORTATION COMMISSION

WHO ARE THEY? WHAT DO THEY DO?

Utahns look to the Department of Transportation for leadership in identifying and solving transportation challenges. The Utah Transportation Commission works in partnership with UDOT to provide a quality transportation system for all of Utah.

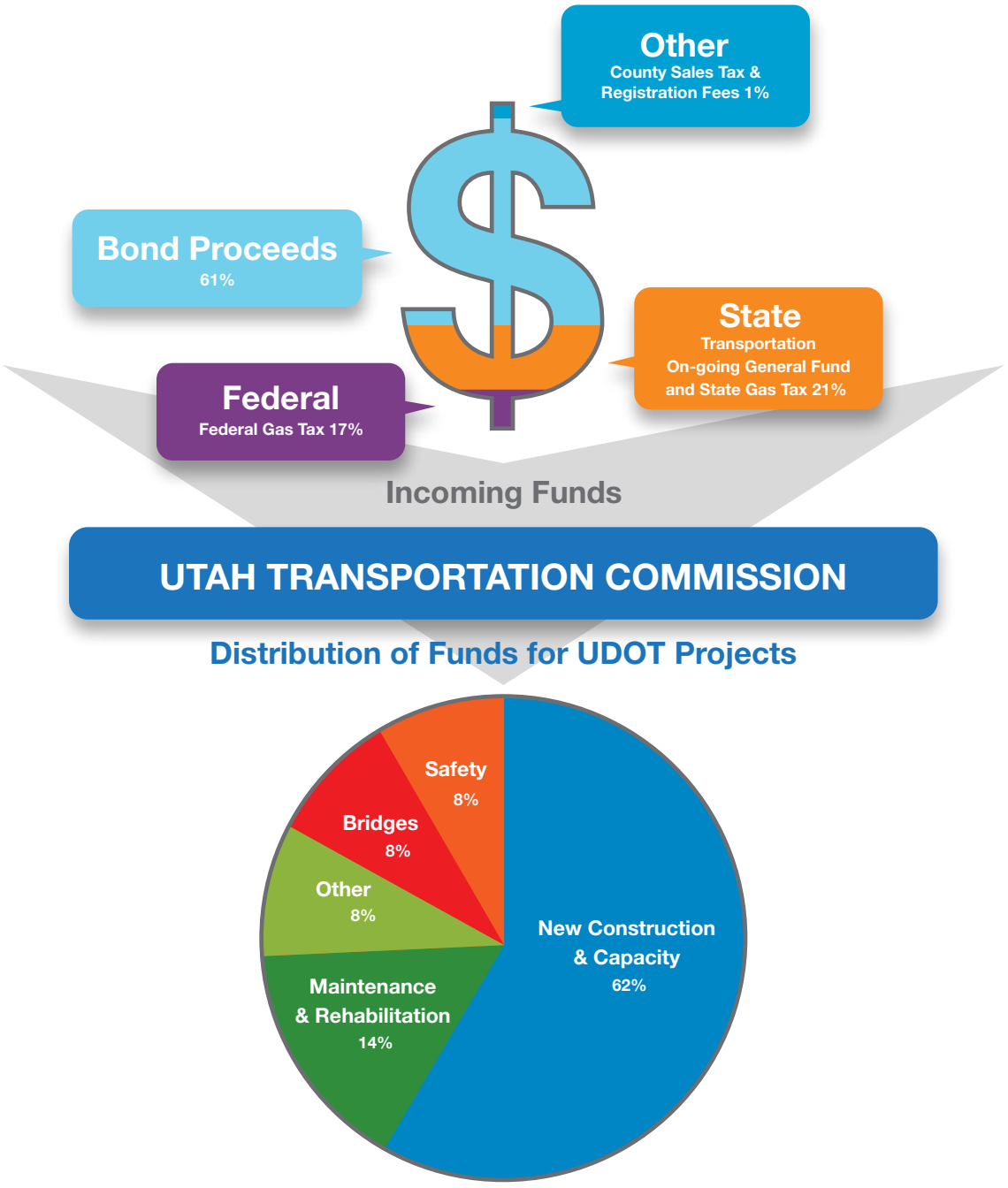
The Commission is comprised of seven members.
Their roles and responsibilities as defined in Utah Code 72-1-303, include:

- Determine priorities and funding levels of projects in the state transportation system considering a prioritization of needs provided by the department.
- Determine additions and deletions to the state highway system.
- Hold public hearings and otherwise provide for public input in transportation matters.
- Make policies and rules under the Rulemaking Act, §63-46a, necessary to perform the Commission's duties.
- Approve establishment of tollways for new state highways or new capacity lanes under §72-6-118.
- Advise the department on state transportation systems policy.
- Review administrative rules made, amended or repealed by the department.
- Annually review public transit plans. In addition, one commissioner serves as a non-voting member of the Board of Trustees for the Utah Transit Authority.

To find more information about the commissioners, visit www.udot.utah.gov/go/commission. Each commissioner may be contacted directly or through LeAnn Abegglen, Commission Secretary, at labegglen@utah.gov.

Available Transportation Program Funding 2011

UDOT operates its programs from a combination of Federal, State and local funds. Percentages change from year to year.



THE CHALLENGE

MEETING UTAH'S TRANSPORTATION NEEDS

The demands on Utah's transportation system have never been greater. Population growth and higher per capita system use have created demand for increased capacity. Increased system use has also put a strain on scarce resources to preserve and extend the life of roads and bridges.

Expanding and preserving our system will require improved efficiency, careful use of resources and close partnering with decision makers.

GROWTH ALSO CREATES OPPORTUNITY

Investing in transportation helps meet today's needs and builds a solid foundation for continued economic expansion and success. While only preliminary results are in, a study being conducted by Brigham Young University shows that investing in transportation substantially improves economic growth.

POPULATION GROWTH VS. LANE MILES

For the last 20 years, Utah has enjoyed growth and prosperity. Between 1990 and 2009 Utah's population increased by 62 percent, and the number of vehicles miles traveled (VMT)* increased 76 percent but capacity increased by only 6 percent.

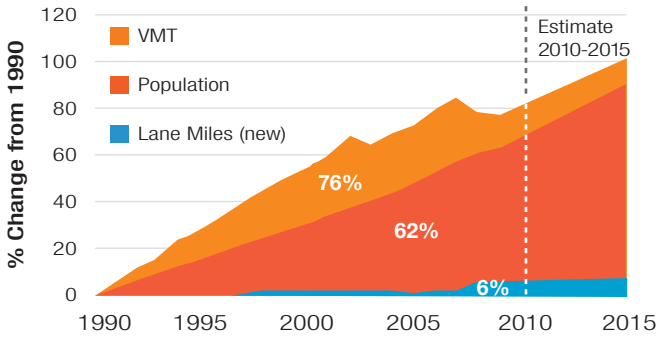
The new Pioneer Crossing provided a much-needed east-west travel corridor in Utah County. Additionally, travel time on nearby S.R. 73 was improved by 95,000 hours per year.

* VMT is a measure of the total number of vehicle miles traveled on a specific road segment over a given period of time. In this document, UDOT is using system wide numbers calculated yearly.

By 2050 more than 5 million people will call Utah home, making it one of the fastest growing states in the country.

Projections show that by 2015, travel will have increased by 90 to 100 percent, population by 85 to 90 percent and new capacity by a mere 7 percent.

Utah Statewide Growth Trends



VMT and population growth exceed increased transportation capacity, measured in new miles added to the system. Projections show growth will continue.

Increased VMT gives rise to:

- Traffic delay. According to Wasatch Front Regional Council, Utahns experience 100,000 hours of system wide delay per day. Improvements planned through 2030 will slow the increase in delay.
- Increased wear and tear: UDOT maintains nearly 6,000 centerline* miles of roadways across the state, an investment worth tens of billions of dollars. In order to protect that investment, the transportation system must be kept in good condition. And while UDOT only has responsibility for 13 percent of all roads, those roads carry 68 percent of VMT.
- Vehicle related crashes. With increased traffic and vehicles, UDOT is working hard on solutions to keep fatal crashes trending downward towards zero.

UDOT CAN MEET THE CHALLENGE

Finding ways to meet transportation needs while keeping our current system in good condition will require hard work, resourcefulness and innovative thinking. With at least $16.5 billion in unmet highway needs already identified through 2030, UDOT recognizes that every transportation need cannot be funded with projected revenue sources.

UDOT is meeting the challenge by focusing on the Final Four Strategic Goals:

Take Care of What We Have

Make the System Work Better

Improve Safety

Increase Capacity

* Centerline miles: On a road segment, a measure of distance between a beginning and ending point.

Lane miles: On a road segment, the centerline measurement times the total number of lanes

Crews replace a bridge in Spanish Fork Canyon using Accelerated Bridge Construction. ABC delivers projects quickly and reduces inconvenience and cost shouldered by road users.

TAKE CARE OF WHAT WE HAVE

FINAL FOUR STRATEGIC GOAL

Keeping Utah's bridges and pavements in good condition is the most effective way to extend the life of the transportation system. UDOT maintains a multi-billion dollar system by:

- Applying well-timed preservation treatments
- Addressing critical needs first
- Keeping Utah's roads open during storms

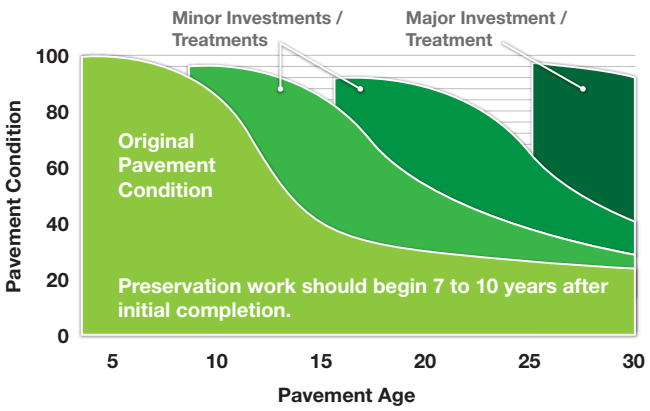
GOOD ROADS COST LESS

The most effective way to preserve the transportation system is to maintain a regular schedule of up-keep to prevent deterioration.

Preservation includes actions like:

- Sealing decks, painting steel and maintaining joints and bearings on bridges
- Repairing cracks and potholes and resurfacing asphalt or concrete pavements
- Repairing or replacing drainage systems

Extending Pavement Life

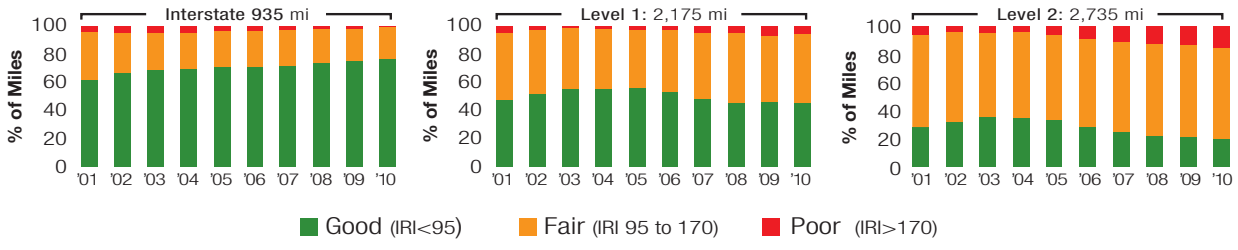


Once deterioration occurs, taxpayers will shoulder a much higher cost to repair or rebuild pavement and bridges.

PRESERVING PAVEMENT

UDOT focuses preservation efforts on the most heavily traveled roads first.

Statewide Pavement Conditions Using the International Roughness Index (IRI)



Level 1 = Roads with greater than 2,000 vehicles per day.

Level 2 = Roads with less than 2,000 vehicles per day.

* National measures of road smoothness.

2010 Accomplishments:

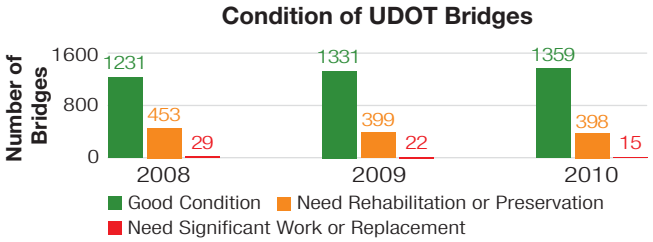
- 70 projects awarded—$140 million—to rehabilitate over 400 miles of pavement
- Over 5,800 miles of pavement condition data collected

2011 Goals:

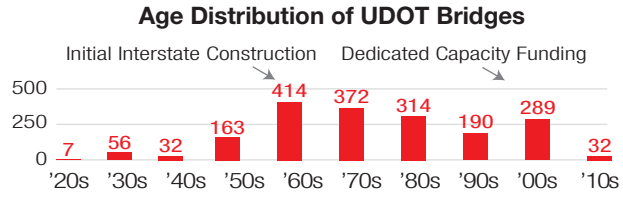
- Monitor pavement, identify optimal time to treat sections
- Prioritize recommendations and award the most effective projects

PRESERVING BRIDGES

Preservation should focus on bridges rated Good and Fair. The system is safe and the overall rating is Good.



Bridges rated Fair are staying static due to preservation efforts. Bridges rated Good are increasing due to new construction.



UDOT is currently seeing a boom in the number of bridges coming due for replacement.

2010 Accomplishment:

- Bridges rated Poor have decreased by 48 percent since 2008

2011 Goal:

- Continue the downward trend in replacing bridges rated Poor

CONTROLLING SNOW AND ICE

UDOT has seen a drop in the number of FTEs (employees) since 2002. Lane miles have climbed steadily since 1999.

UDOT continues to become more efficient at removing snow and ice by:

- Using equipment, like tow plows, that allow greater control and efficiency
- Applying brine before storms and using salt more efficiently
- Assessing conditions using temperature and snowfall rates to dispatch plows advantageously

UDOT evaluates road conditions within one hour after storms: "A" represents bare pavement; "B" represents occasional build-up of snow or ice; "C" represents regular build-up of snow and ice.

2010 Accomplishment:

- UDOT snow removal received a grade of B

2011 Performance Goal:

- UDOT's target grade is an A-

MAKE THE SYSTEM WORK BETTER

FINAL FOUR STRATEGIC GOAL

UDOT works to optimize traffic mobility by:

- Making improvements that reduce delay on freeways, at intersections and along major corridors
- Providing useful information to help people move more efficiently
- Clearing crashes quickly to maintain the free flow of traffic

MANAGED LANES

Innovative lane use helps move people more efficiently.

- Express Lanes
  New Express Lanes allow solo drivers to use the High Occupancy Vehicle Lane.

2010 Accomplishment:

- UDOT implemented the Express Lanes electronic toll system in August 2010

2011 Goal:

- Maintain Express Lane speed at least 55 miles per hour 90 percent of the time

- Reversible Lanes, opening in 2011:
  Reversible Lanes on 5400 South in Taylorsville will significantly decrease traffic delay with minimal construction costs.

SYNCHRONIZING SIGNALS

Better coordination of signal timing reduces congestion and saves road user costs.

2010 Accomplishment:

- Saved 279,000 travel hours and $6,620,000 of user costs in eight corridors

After Signal Timing Optimization

Corridor	Reduction Intersection Delay	Reduction Travel Time
Region 2		
S.R. 36 in Tooele to/from S.R. 138 to Vine St.	33.4 %	3.5 %
Redwood Rd. to/from 1000 N. to 3500 S.	28.3 %	12.6 %
Region 3		
Main St. in Springville from 400 N. to 400 S.	39.2 %	10.0 %
Region 4		
Green Springs Rd. to/from Red Hills Pkwy. to Red Cliffs Dr.	75.0 %	50.8 %*
Red Cliffs Dr. to/from 300 E. to St. George Blvd.	22.5 %	6.1 %
River Rd. to/from St. George Blvd. to 1450 S.	26.6 %	10.0 %
100 S. in St. George to/from Bluff St. to River Rd.	6.6 %	2.1 %
700 S. in St. George to/from Bluff St. to River Rd.	23.0 %	10.2 %

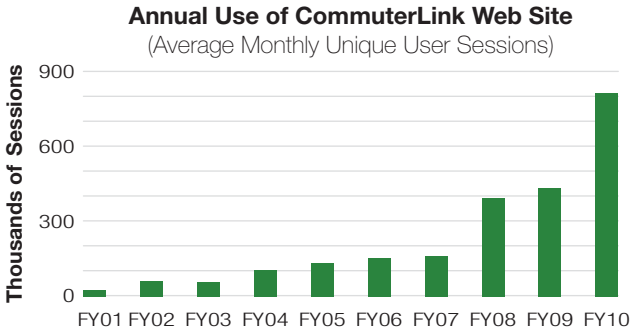
** Improvement reflects first-time synchronization.*

2011 Goals:

- Identify five corridors and document with "before and after" studies
- Complete "Adaptive Control System Lite," system which auto-adjusts to corridor needs

PROVIDING TRAFFIC INFORMATION: COMMUTERLINK.UTAH.GOV AND 511

The CommuterLink website provides real-time traffic and weather information to help road users make choices that reduce delay, prevent crashes and improve air quality.



As measured by unique user sessions, website usage is up 89 percent over 2009.

2010 Accomplishments:

- CommuterLink and server upgrades have increased website utility and usage
- The number of calls to 511, Utah's travel information number, dropped in 2010

2011 Performance Goals:

- Increase the use of CommuterLink and 511 by 10 percent
- Improve the CommuterLink mobile website

REDUCING TRAVEL DEMAND WITH TRAVELWISE

TravelWise encourages alternatives to driving alone to help travelers conserve energy, reduce traffic congestion and improve air quality.

2010 Accomplishments:

- Initiated 10 TravelWise Reduction Integration Plans with private and public sector
- TravelWise Tracker developed
- Successful partnership with Salt Lake Solutions for the Clear the Air Challenge

2011 Goals:

- Hold 10 TravelWise workshops or events
- Inform Utah County drivers about reducing freeway traffic by 10 percent during I-15 CORE construction
- Include TravelWise strategies in all MPO long-range plans

MANAGING TRAFFIC INCIDENTS

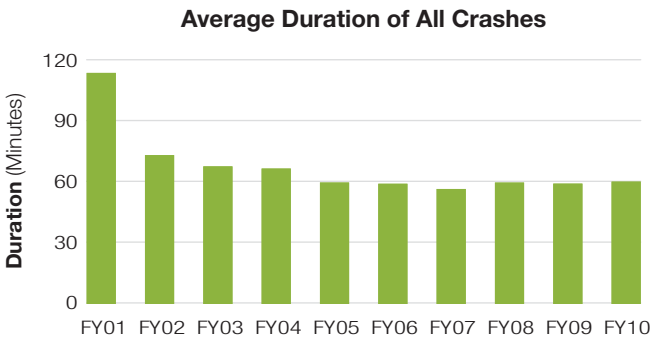
UDOT's Incident Management Teams restore normal freeway traffic flow. For every minute saved clearing an incident, five minutes of traffic back-up is prevented.

2010 Accomplishments:

- Assisted 18,588 motorists
- Managed 3,567 traffic incidents
- Helped with 22,155 other activities such as debris removal

2011 Performance Goal:

- IMT works with UHP to clear non-injury incidents in 30 minutes or less, serious injuries in 60 minutes or less and fatalities in 120 minutes or less



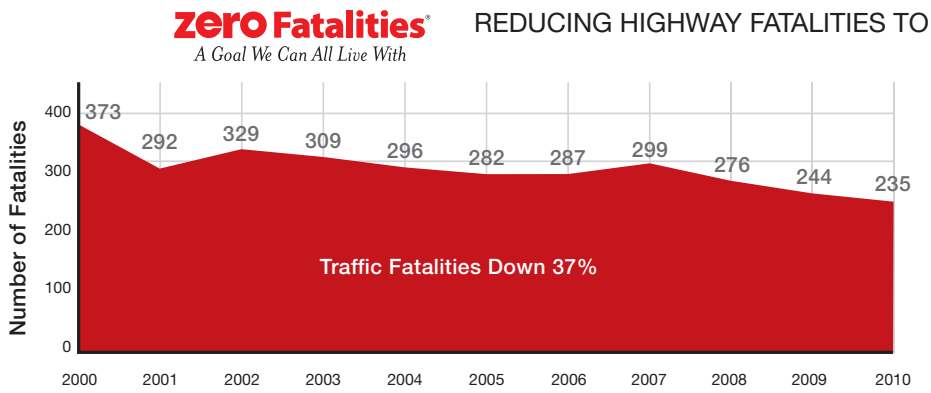
Average duration for all crashes has remained constant for the last six years.

IMPROVE SAFETY

FINAL FOUR STRATEGIC GOAL

Traffic related deaths are the lowest in 35 years, due in large part to UDOT's unrelenting commitment to safety. The Zero Fatalities goal can be realized by:

- Installing safety improvements that are proven to prevent fatalities
- Working with Metropolitan Planning Organizations to incorporate safety measures in planning
- Promoting safe practices while driving or walking



In 2009, 244 people lost their lives on Utah roads, a reduction of 32 people from the previous year. There were 235 fatalities in 2010. (This number is preliminary)

MAKING SAFETY IMPROVEMENTS

In 2010, UDOT programmed $33.959 million to construct safety infrastructure improvements.

2010 Accomplishments:

- 190 miles of centerline and shoulder rumble strips installed in various projects
- 18 new traffic signals programmed for funding; nine new traffic signals designed and constructed in less than four months
- 19 left-turn phasing intersections upgraded
- Five locations identified for dual left-turn upgrades
- Two Advance Warning Signal systems
- Continued development of a program to efficiently maintain lighting equipment
- 304 traffic engineering studies, including 113 left-turn signal studies and 56 signal warrant studies, completed
- 77 miles of median cable barrier awarded: $11.3 million
- 25 miles of concrete barrier and guardrail awarded: $2.1 million
- High Risk Rural Road project–Sevier County, install signs: $425,000

2011 Performance Goals:

- Reduce fatalities by 2 percent each year
- Install center-line and shoulder rumble strips and new lighting at targeted intersections
- Continue assisting Metropolitan Planning Organizations to incorporate safety into planning

Governor Gary Herbert encourages kids to stay safe and healthy by walking to school.

REDUCING PEDESTRIAN FATALITIES

UDOT will continue to make roadways safer and more pedestrian friendly.

2010 Accomplishments:

- 319 access and replacement ramps installed
- Three safety and solar powered lighting projects for I-70 rest areas completed
- 11 Safe Sidewalk Program projects constructed
- 16 Safe Routes to School projects to add sidewalks for schools awarded: $2.77 million

2011 Performance Goal:

- Continue enhancement to intersection lighting and build additional sidewalks to improve safety for adult pedestrians and school children

Public outreach partnerships help educate the public and make Utah a safe place for living, traveling and doing business.

PUBLIC OUTREACH EFFORTS

Campaigns:

Zero Fatalities–Addresses drowsy driving, distracted driving, aggressive driving, impaired driving and not buckling up

SNAP–Student Neighborhood Access Program develops safe routes and safety education for elementary students

Litter Hurts–Addresses safety issues associated with unsecured loads on vehicles

2010 Accomplishments:

- All Utah high schools received a "no texting" DVD
- 85 out of 118 total high schools received a Zero Fatalities presentation
- 40,000 elementary school children saw the SNAP program safety assembly
- 48 to 69 percent of respondents to a 2010 survey said Zero Fatalities influenced them to avoid the specific unsafe driving behaviors

2011 Performance Goals:

- Establish a public awareness program targeting businesses
- Expand reach of existing teen driving education program
- Assist local agencies to establish safety education programs

Cable barrier stopped this semi from driving into oncoming traffic.

INCREASE CAPACITY

FINAL FOUR STRATEGIC GOAL

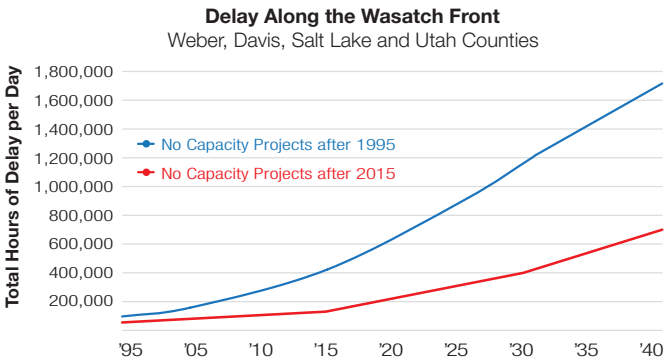
Traffic delay hurts economic vitality and quality of life in Utah. UDOT is committed to judiciously expanding system capacity in order to:

- Increase lane miles
- Reduce delay
- Reduce road user costs

REDUCING DELAY

Traffic delay diminishes the quality of life for all who live and drive in Utah. Thanks to state funding, UDOT is currently holding back delay.

Data from Wasatch Front Regional Council shows current and projected delay with and without capacity improvements starting in 1995. Between 1995 and 2010, delay is shown to be at a standstill even with a 50 percent increase in population and VMT.



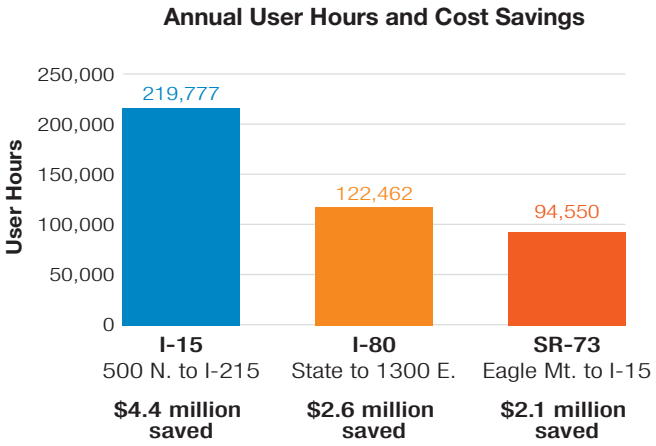
Without capacity improvements, delay along the Wasatch Front would have experienced a three-to-five-fold increase.

With planned capacity projects, delay will increase after 2010. However, the increase in delay without capacity projects would have been three times greater by 2015, according to WFRC's projections.

SAVING HOURS AND USER COSTS: THREE PROJECTS

Traffic delay has an intrinsic, measureable cost to commerce. Businesses that move products or deliver services transfer increased costs to consumers.

Before and after studies on three capacity projects illustrate how UDOT effectively eliminated hours of delay. User costs, a result of delay, have also been reduced.



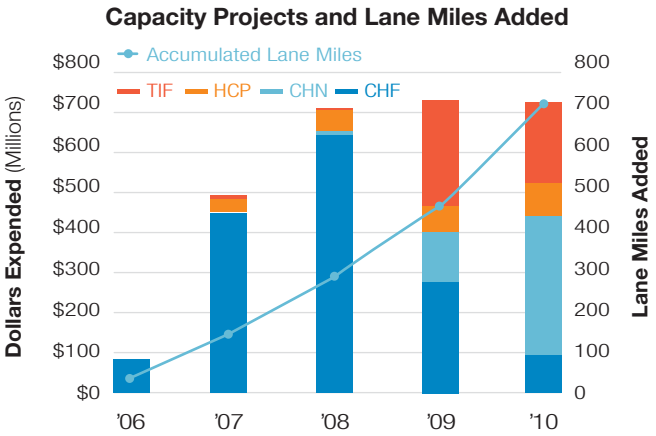
Travel time studies by UDOT show annual saved user costs of over $9 million per year on these three projects.

Cost savings for the public on nearby secondary roads can also be significant. For example, travel times on S.R. 73 from Eagle Mountain to I-15 have benefitted from construction of Pioneer Crossing.

ADDING CAPACITY: LANE MILES AND FUNDING SOURCES

Since 2006 more than 700 miles have been added to the state system. Capacity improvements are financed by four different programs that fund more than 200 projects:

- Centennial Highway Fund (CHF), 1998: This $3.9 billion program includes legislative appropriation, bonding and sales tax funds. Project examples include I-15 reconstruction in Salt Lake County, Legacy Parkway and 11400 South, State Street to Bangerter Highway.
- Transportation Investment Fund (TIF), 2005: This $2.7 billion program includes legislative appropriation bonding, sales tax and vehicle registration fee funds. Project examples include I-15 CORE, Mountain View Corridor, Pioneer Crossing and Southern Corridor.
- Critical Highway Needs Fund (CHNF), 2007: This $1.2 billion program funds alternate routes for I-15 reconstruction and access, and congestion and commercial energy development needs as deemed appropriate by the Governor and Legislators. Project examples include S.R. 92, Lehi to Highland; Mountain View Corridor, 2100 North, Redwood Road to I-15; I-15 South Layton Interchange and I-15 Dixie Drive Interchange.
- Highway Construction Program (HCP): This $323 million program funds small-scale congestion relief projects on state and federal highways. Funds are assigned by the Utah Transportation Commission. Project examples include: S.R. 79, Hinckley Drive to S.R.108; S.R. 9, 300 West to 800 North Hurricane and I-15, 9000 South to 10600 South.



These added miles have made a significant improvement to the system.

New concrete on southbound I-15 at 600 North has improved travel time between Salt Lake and Davis County.

PROJECT DELIVERY

PUTTING FUNDING TO USE

The Department's construction program is divided into two main parts: Preconstruction and Construction.

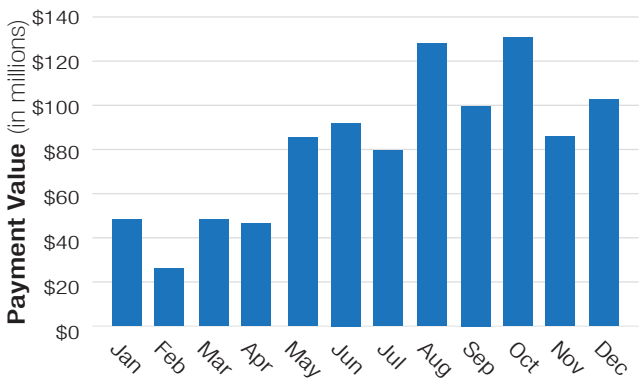
PRECONSTRUCTION

Before any asphalt or concrete is placed, UDOT has to complete all the necessary roadway design, property and utility agreements and other elements.

In 2010, the Department contracted for 243 pre-construction and environmental projects worth a total of $67.8 million.

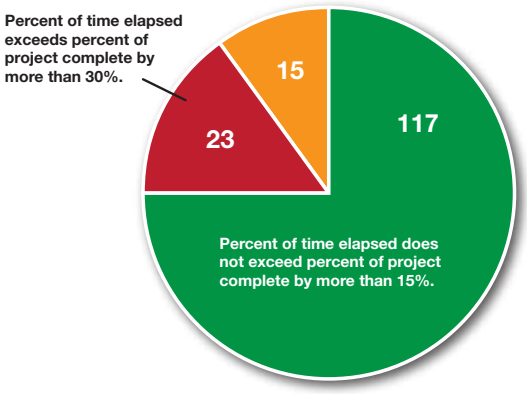
* All data are current as of Jan. 6, 2010

2010 Contractor Payments by Month



Contractor payments only cover construction projects. Projects in the design phase, as well as transportation studies, are not represented in this chart.

Current Projects on Schedule



Color rating distribution for all current projects statewide. 85% of projects are on schedule (green or yellow).

Cub Scouts visit Layton Interchange.

STRATEGIC DIRECTION
& PERFORMANCE MEASURES

ABOUT THE COVER PHOTOS

Eagle Canyon Bridge—Winner of the Rural Project of the Year at the UDOT Engineering Conference: Replacing the concrete deck on Eagle Canyon Bridge posed a problem. Deck panels could not be removed all at once without risking stability of the steel arches. And, the isolated location meant that a concrete batch plant could not be located on-site; UDOT, Horrocks Engineering and Granite Construction Company partnered to find an innovative solution: Precast deck panels were trucked to the site where workers systematically rebuilt the deck panel by panel. The Eagle Canyon Bridge is now one of the smoothest riding and sturdiest bridges in Utah.